I claim:

1. A method for inhibiting HIV infection in a subject, comprising administering to the subject an effective amount of an agent selected from the group consisting of:

   a. an Beta Defensin (BD) agent; and

   b. an Beta Defensin-inducing agent.

2. A method for inhibiting the contraction of an HIV infection in a subject, comprising administering to the subject an effective amount of an agent selected from the group consisting of:

   a. an BD agent; and

   b. an BD-inducing agent.

3. A method for inhibiting HIV entry into a cell, the method comprising contacting the cell with an effective amount of an agent selected from the group consisting of:

   a. an BD agent; and

   b. an BD-inducing agent.

4. A method of any of claims 1-3, wherein the BD agent is a human Beta Defensin agent (HBD).

5. A method of claim 4, wherein said HBD agent is an human Beta defensin-2 agent (HBD2).

6. A method of claim 5, wherein said HBD-2 agent is a polypeptide comprising an amino acid sequence at least 90% identical to an amino acid sequence selected from the group consisting of: SEQ ID NO:1 and SEQ ID NO:2.

7. A method of claim 5, wherein the HBD agent is an HBD-2 agent, and wherein further said HBD-2 agent is a polypeptide encoded by a nucleic acid that is at least 90% identical to a nucleic acid selected from the group consisting of: SEQ ID NOs:4-7.

8. A method of claim 4, wherein said HBD agent is an human Beta defensin-3 agent (HBD3).

9. A method of claim 8, wherein said HBD-3 agent is a polypeptide comprising an amino acid sequence at least 90% identical to an amino acid sequence as set forth in SEQ ID NO:15.

10. A method of claim 9, wherein the HBD agent is an HBD-3 agent, and wherein further said HBD-3 agent is a polypeptide encoded by a nucleic acid that is at least 90% identical to a nucleic acid selected from the group consisting of: SEQ ID NOs: 16-18.

11. A method of any of claims 1-3, wherein the HBD-inducing agent is a polypeptide comprising an amino acid sequence at least 90% identical to an amino acid sequence selected from the group consisting of SEQ ID NOs:3, 9, 11, and 13.

12. A method of any of claims 1-3, wherein the HBD-inducing agent is a polypeptide encoded by a nucleic acid that is at least 90% identical to a nucleic acid having a nucleotide sequence selected from the group consisting of SEQ ID NOs:8, 10, 12, and 14.

13. A method of any of claims 1-3, wherein the HBD agent has a 50% effectiveness at a concentration of about 10 micromolar or less.

14. A method of any of claims 1-3, wherein the agent is administered systemically.

15. A method of claim 14, wherein the agent is administered directly to the bloodstream.

16. A method of any of claims 1-3, wherein the agent is administered locally.

17. A method of claim 16, wherein the agent is administered to a portion of the body selected from the group consisting of: the mouth, the nasopharyngeal tract, the anus, the vagina, the penis, the skin, and the eye.

18. A method of claim 16, wherein the agent is administered to a mucous membrane.

19. A method of any of claims 1-3, wherein the agent is administered in a form selected from the group consisting of: a mouthwash, a toothpaste, an aerosol, a rectal or vaginal suppository, a rectal or vaginal cream, a rectal or vaginal film, a skin lotion, a condom, an eye drop, and an eye ointment.

20. A method of any of claim 1-3, wherein the agent is administered in combination with an additional antiviral agent.

21. The method of claim 20, wherein the antiviral agent targets a portion of the HIV virus selected from the group consisting of: an HIV protease and an HIV reverse transcriptase.

22. The method of any of claims 1-3, wherein the HIV is an HIV that associates with CXCR4.

23. The method of any of claims 1-3, wherein the HIV is an X4-type HIV.

24. The method of any of claims 1-3, wherein the HBD-inducing agent induces expression of HBD-2, HBD-3, or both.

25. A method of identifying a BD-inducing agent comprising:

-providing cells capable of expressing a BD-polypeptide;
-contacting said cells with an agent;
-determining the level of expression of said BD-polypeptide in the presence of said agent and comparing the level of expression of said BD-polypeptide in the presence of said agent to the expression of said BD-polypeptide in the absence of said agent;
-wherein an increase in the expression of said BD-polypeptide in indicative of a BD-inducing agent.

26. The method of claim 25, wherein the BD-polypeptide is a human BD-polypeptide.

27. The method of claim 26, wherein said HBD polypeptide is an human Beta defensin-2 polypeptide.

28. The method of claim 27, wherein said HBD-2 polypeptide comprises an amino acid sequence at least 90% identical to an amino acid sequence selected from the group consisting of: SEQ ID NO:1 and SEQ ID NO:2.

29. The method of claim 27, wherein the HBD polypeptide is encoded by a nucleic acid that is at least 90% identical to a nucleic acid selected from the group consisting of: SEQ ID NOs:4-7.

30. The method of claim 26, wherein said HBD polypeptide is an human Beta defensin-3 polypeptide (HBD3).

31. The method of claim 30, wherein said HBD-3 agent is a polypeptide comprising an amino acid sequence at least 90% identical to an amino acid sequence as set forth in SEQ ID NO:15.

32. The method of claim 30, wherein the HBD agent is an HBD-3 agent, and wherein further said HBD-3 agent is a polypeptide encoded by a nucleic acid that is at least 90% identical to a nucleic acid selected from the group consisting of: SEQ ID NOs: 16-18.

33. The method of claim 25, further comprising the step of preparing a pharmaceutical composition comprising the agent identified to be a BD-inducing agent.

34. The method of claim 25, wherein said cells express endogenous BD-polypeptide.

35. A method of identifying agents that potentiate the interaction between a BD-polypeptide and a chemokine receptor, comprising

(i) providing a chemokine receptor and a BD-polypeptide;

(ii) adding an agent to step (i);

(iii) determining the interaction of said chemokine receptor and said BD-polypeptide in the presence of said agent to the interaction in the absence of said agent;

-wherein an increase in the interaction of said BD-polypeptide with said chemokine receptor is indicative of a agent that potentiates the interaction between said BD-polypeptide and said chemokine receptor.

36. The method of claim 35, wherein said chemokine receptor is CXCR4.

37. The method of any one of claims 1-3, wherein the BD-inducing agent is selected from the group consisting of a small molecule, a polypeptide, a nucleic acid, and a peptidomimetic.

38. The method of claim 37, wherein said BD-inducing agent is a polypeptide having an amino acid sequence at least 90% identical to the amino acid sequence selected from the group consisting of SEQ ID NOs:3, 9, 11, and 13.

39. The method of claim 37, wherein said BD-inducing agent is a polypeptide encoded by a nucleic acid sequence at least 90% identical to the nucleotide sequence selected from the group consisting of SEQ ID NOs:8, 10, 12, and 14.